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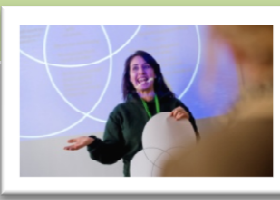
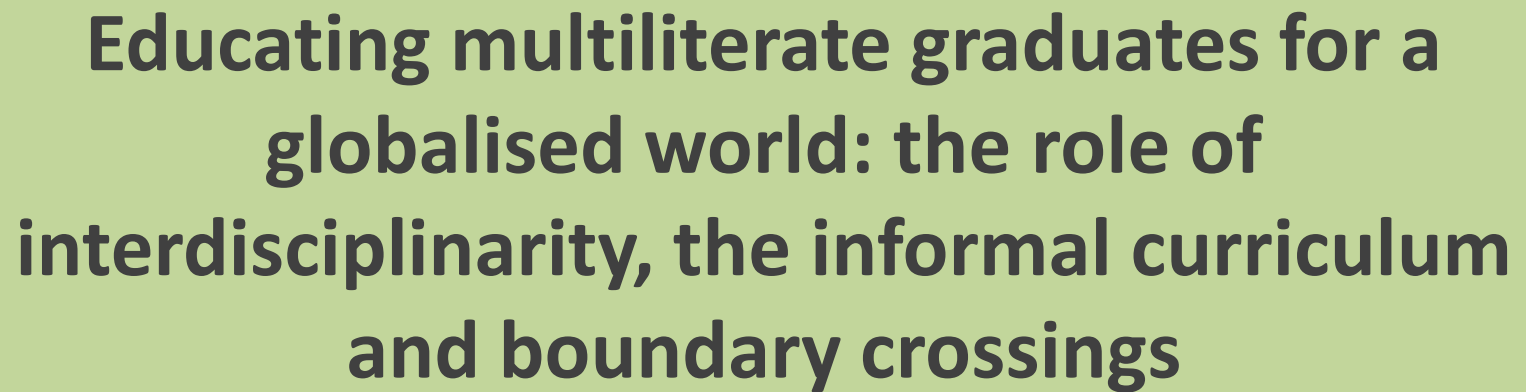
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Overview

- Why do we need to rethink our ideas about future curriculum?
- A student perspective on future curriculum: looking at the views of engineering students
- What sorts of curriculum do we need in the future? The work of the New London Group and its importance to rethinking future curriculum

Why do we need to rethink curricula?

- progress in achieving internationalised curricula seems to be slow and advancing unevenly
- Lack of strategic and uniform direction?
- As far as internationalisation goes: we are *‘still having the same conversation we were all having in the 1970s’* (Edwards, 2007, p. 373)

Crisis of terminology and ideas?

- What does internationalisation mean? Does my institution have a strategy for internationalisation and how does this relate to what happens in the curriculum?
- What do we mean by curriculum? Is this solely what happens in the classroom or does it include the informal curriculum, the extended curriculum and student interaction on and off campus?

...impeding progress?

- Does internationalisation of the curriculum relate to relationships between international students and 'home' students?
- What does diversity really mean and how is it significant in learning? Is it about philanthropy or learning and knowledge?

...and so it goes on!

- Is internationalisation about developing students for employment?
- What is a global citizen and how do we link internationalisation in the curriculum with developing ethical and responsible graduates?
- What about the influence of different disciplinary contexts?

Three questions to consider

- What challenges will our graduates face in 10 years time?
- How do our current learning/curricula prepare them for this?
- What and who shapes learning/curriculum in your department/school/university?

A student view on future curriculum

- Initial data, for 'Educating the global engineer'
- 81 1st year, 74 2nd year BSc Eng students
- What are the qualities of a 'global engineer' how can university engineering courses develop one?
Answers on a postcard!

The postcard data

Responses analysed with NVivo: three themes emerged:

- Interdisciplinarity
- Multiliteracy
- Boundary crossing

A global engineer should have interdisciplinary knowledge...

- in order to solve *'problems that incorporate mechanical, electrical and civil engineering'*
- 1st years listed robotics, communications, drawing, chemistry, physics, and maths*
- 2nd years: global economics, business for manufacturing, geography, sociology, language study and study of religion and cultures* (**not asked to list other disciplines*)

A global engineer should be multiliterate...

- *‘a skill set that can be applied all over the world’*
- *‘usual engineering but applied in different environments’*
- creativity, innovation and communication skills, being organised, enterprising and having *‘original ideas’*; *‘adaptable’*; *‘abilities to work with different people well’*
- *‘Multilingual, culturally diverse and aware of different unit applications’*

A global engineer should be able to cross borders and boundaries

- *‘students involved in industrial companies to gain some skills and knowledge’ (1st yr)*
- cross boundaries between the practical and theoretical
- *‘more interaction with businesses’*
- *‘mix[ing] the course subjects from universities from other countries’ ...*
- ..may enable students to start *‘seeing the ‘big picture’*”.

What sort of curriculum?

- should *'have more practical 'real life' situations'*
- *'need to understand the ethics involved during design'*
- *'things relating to the earth i.e. solar power, water power'*
- *'teach about more than just European S.I. units'*
- *'less specialism'*
- *a 'five year course'*

What sort of curriculum do we need in the future?

- The student data themes fitted with ideas of The New London Group (NLG, 1994)
- NLG brief was to consider needs for literacy in the 21st century
- Composition of the group included eminent linguists and educationalists Norman Fairclough, Gunter Kress, Bill Cope and Mary Kalantzis (et al).

The New London Group

- considered what would need to be taught in a rapidly changing near future, and how it would be taught
- considered the influence of technology (in its broadest sense) on literacy and meaning-making in learning contexts
- the *‘emerging world of meaning-making would be more multi-modal... in which written, oral, visual, spatial, gestural and tactile modes of representation would be more closely intertwined.’* (Kalantzis and Cope, 2010: xiii)

‘the multiplicity of communications channels and media’

- young people and learners are involved in many more divergent communities and in multiple lifeworlds (often as a result of technology)
- the *‘increasing salience of cultural and linguistic diversity’* which is a result of this as a crucial factor in future learning contexts (The New London Group 1996, p. 60).

Multiliteracies

- increased immediacy of diversity and interconnectedness with global neighbours demands new sorts of literacy and wider sets of competences that the group called *'multiliteracies'*.
- NLG saw a need for change in ways of thinking about designing literacy and learning presenting *'the centrality of diversity... the significance of multimodality and the need for a more holistic approach to pedagogy'* as crucial considerations (Cope and Kalantzis, 2009, p.167).

Two underlying principles

- students need to feel a sense of belonging in relation to the content being learned, ways of knowing and the learning community itself (Rennie, 2010)
- learning should be transformative

Designing future curriculum: Breaking down boundaries between university and community

- Kress (2000) suggested the need for a curriculum with a shifting locus of site (where knowledge is delivered), time (when learning occurs) and authority (what counts as knowledge).
- an already emerging change in the boundaries between formal institutions providing education and the community, identified '*processes of the dissolution of former frames and the emergence of new framings*' (2000, p. 134).

Disciplines in an interconnected world

- understanding how the world functions in the 21st century increasingly requires an interdisciplinary approach to using knowledge
- *‘an increasingly interconnected and globalised world has necessitated a parallel interconnectivity within the curriculum’* (Razbully and Bamber, 2008)

The Melbourne Model

- introduction in 2008 of interdisciplinary approaches to curricula is the innovations at the University of Melbourne
- Undergraduate students are required to study one quarter of their subjects outside their core curriculum
- to *‘ensure graduates can negotiate their way successfully in a world where knowledge boundaries are constantly shifting and reforming to create new challenges’* (Devlin, 2008, p.5)

Developing multiliterate graduates

- shift away from the idea that learning revolves around written or oral 'text' alone
- curriculum itself needs to be multimodal, drawing on varied sources and types of information. Need different modes of communicating learning and different sources for communication, ensuring that teaching is dialogic and involves *'coordinated teacher–student and peer-to-peer interaction as well as active learner engagement'* (Nicol, 2010, p. 503).

Fundamental change?

- *‘What is required is a thoroughgoing review of what the features of this new world are likely to be and what curricular and pedagogic responses are likely to be possible and most useful.’*
(Kress, 2000, p. 140)

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